Manufacturer's Declaration



KoE-R-17004

Manufacturer	REFU Elektronik GmbH Marktstraße 185 72793 Pfullingen Germany	
Inverter Type	865P008, 865P010, 865P013, 865P017, 865P020, 865P023 867P008, 867P010, 867P013, 867P017, 867P020, 867P023 840P040, 840P046, 842P040, 842P046	

The products listed above that are manufactured by REFU Elektronik GmbH are in compliance with Brazil's Associação Brasileira de Normas Técnicas

ABNT NBR 16149:2013 Sistemas Fotovoltaicos (FV) - Características da interface de conexão com a rede elétrica de distribuição

ABNT NBR 16150:2013 Sistemas Fotovoltaicos (FV) - Características da interface de conexão com a rede elétrica de distribuição - Procedimentos de ensaios de conformidade

ABNT NBR IEC 62116:2012 Procedimentos de ensaios de anti - ilhamento para inversores de sistemas fotovoltaicos conectados a rede elétrica

The requirements of the ABNT NBR norms are fulfilled by setting the grid code *Brazil 220 V ABNT:2013* or *Brazil 380 V ABNT:2013*.

	setpoint	switch-off time
$U/U_N >$	115 % (600s average)	600 s
U/U _N >>	120%	0,2 s
$U/U_N <$	80 %	0,4 s
U/U _N <<	35 %	0,2 s
f >	61,5 Hz	0,1 s
f<	57,5 Hz	0,1 s

Metzingen	Valid from 2017-05-02	i.v. A. Godemann	i.A. R. Webler
		Aaron Gerdemann	Ronald Kiebler
location	date	Head of Product Management	Head of Testing Department

We reserve the right to make changes in the conformity declaration. Presently applicable edition can be obtained upon request.

CE Conformity Declaration



REFU Elektronik GmbH Marktstraße 185, 72793 Pfullingen / Germany

KoE-NE-16002

The following electronic devices comply with the EC-directives and guidelines:

- Directive 2006/95/EC Electrical equipment designed for use within certain voltage limits
- Directive 2004/108/EC Relating to electromagnetic compatibility

Туре	REFUsol 40K	, 46K	
	840P040, 840P	046	
Safety			
IEC 62109-1:2010	Safety of power Part 1: General r	converters for use in photovoltaic po requirements	ower systems -
IEC 62109-2:2011	Safety of power Part 2: Particula	converters for use in photovoltaic po r requirements for inverters	ower systems -
EN 60529:1991 + A1:2000 + A2:2013	Degrees of prote	ection provided by body (IP-Code)	
DIN VDE V 0126-1-1:20	13-08 Automatic disco voltage grid	nnection device between a generato	or and the public low-
EMC-Compatibility	/ - Immunity		
EN 61000-6-1:2007	Electromagnetic Immunity for res	Compatibility (EMC) Part 6-1: Gen idential, trade and light-industrial en	eric Standards - vironments
EN 61000-6-2:2005	EN 61000-6-2:2005 Electromagnetic Compatibility (EMC) Part 6-2: Generic Standards - Immunity for industrial environments		eric Standards -
EMC-Compatibility	/ - Emission		
EN 61000-3-12:2011	Electromagnetic currents produce with input curren	Compatibility (EMC) - Part 3-12: Lir ed by equipment connected to public it between 16A and 75A per phase	nits - Limits for harmonic c low voltage systems
EN 61000-3-11:2000 Electromagnetic Compatibility (EMC) - Part 3-11: Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems; Equipment with rated current <= 75 A and subject to conditional connection		mitation of voltage w-voltage supply subject to conditional	
EN 61000-6-4:2007 + A	1:2011 Electromagnetic Emission standa	Compatibility (EMC) - Part 6-4: Ger ard for industrial environments	neric Standards -
Pfullingen	Valid from 2016-03-31	light	i.V
location	date	Hartmut Riegert Geschäftsführer Chief Executive Officer	Heiko Schneider Leiter Entwicklung Solar Head of R&D Solar

We reserve the right to make changes in the conformity declaration. Presently applicable edition can be obtained upon request.



Certificate

Manufacturer / applicant:

REFU Elektronik GmbH Marktstraße 185 72793 Pfullingen Germany

Product type:Grid-tied photovoltaicModel:REFUsol 40K (840P040)REFUsol 46K (840P046)

Ratings:	REFUsol 40K (840P040)	REFUsol 46K (840P046)
MPP DC voltage range [V]:	490-850	575-850
Input DC voltage range [V]:	350-1000	350-1000
Input DC current [A]:	84	82
Output AC voltage [V]:	3x 400/50Hz	3x 460/50Hz
Output AC current [A]:	59	59
Output power [kVA]:	40	46

The certificate refers to the stated model(s) which passed the tests according to the applicable standard(s):

IEC 62109-1:2010, EN 62109-1:2010, DIN EN 62109-1:2011 Safety of power converters for use in photovoltaic power systems – Part 1: General requirements

IEC 62109-2:2011, EN 62109-2:2011, DIN EN 62109-2:2012 Safety of power converters for use in photovoltaic power systems - Part 2: Particular requirements for inverters

Report number:

14TH0128-IEC62109-1 14TH0128-IEC62109-2

Certificate number:

Date of issue:

2016-03-03

16-017

Certification body

Dieter Zitzmann



Certification body of Bureau Veritas Consumer Products Services Germany GmbH Accredited according to DIN EN ISO/ IEC 17065

BUREAU VERITAS Consumer Products Services Germany GmbH Businesspark A96, 86842 Türkheim, Germany Phone: + 49 40 74041-0 cps-tuerkheim@de.bureauveritas.com www.bureauveritas.de/cps



Certificate of compliance

Applicant:

REFU Elektronik GmbH Marktstraße 185 72793 Pfullingen Germany Photovoltaic inverter

Product: Model: Photovoltaic inverter REFUsol 40K (840P040) REFUsol 46K (840P046)

Use in accordance with regulations:

The inverters are tested for functional safety, grid protection, specified environmental influences and efficiency. For detailed information, please watch the corresponding test reports.

Applied rules and standards:

IEC 61727:2004	Characteristics of the utility interface
IEC 62116:2008	Islanding prevention measures for utility-interconnected photovoltaic inverters.
IEC 62109-1:2010	Safety of power converters for use in photovoltaic power systems
IEC 62109-2:2011	Safety of power converters for use in photovoltaic power systems
IEC 60068-2-1:2007	Environmental testing – Part 2-1: Tests – Test A: Cold
IEC 60068-2-2:2007	Environmental testing – Part 2-2: Tests – Test B: Dry heat
IEC 60068-2-6:2007	Environmental testing – Part 2-6: Tests – Test Fc: Vibration (sinusoidal)
IEC 60068-2-27:2008	Environmental testing – Part 2-27: Tests – Test Ea and guidance: Shock
IEC 60068-2-30:2005	Environmental testing – Part 2-30: Tests – Test Db: Damp heat, cyclic (12h + 12 h cycle)
IEC 60068-2-75:1997	Environmental testing – Part 2-75: Tests – Test Eh: Hammer tests
	(IEC 62262:2002 – IK code)
IEC 60068-2-78:2001	Environmental testing – Part 2-78: Tests – Test Cab: Damp heat, steady state
IEC 61000-6-2:2005	Electromagnetic compatibility (EMC) - Generic standards – Immunity for industrial
	environments
IEC 61000-6-4:2007	Electromagnetic compatibility (EMC) - Generic standards – Emission standard
+A1:2011	for industrial environments

At the time of issue of this certificate the safety concept of an aforementioned representative product corresponds to the valid safety specifications for the specified use in accordance with regulations.

Report number:

14TH0128-IEC61727; 14TH0128-IEC62109-1; 14TH0128-IEC62109-2; 14TH0128-IEC60068; Telus Bericht Nr. 374/14; 14TH0128-UTE C15-712-1; 14TH0128_EN61000-6-x_2

Certificate number: Date of issue: U16-0207 2016-04-13

Certification body

Dieter Zitzmann

Certification body of Bureau Veritas Consumer Products Services Germany GmbH Accredited according to DIN EN ISO/IEC 17065

BUREAU VERITAS Consumer Products Services Germany GmbH Businesspark A96, 86842 Türkheim, Germany Phone: + 49 40 74041-0 cps-tuerkheim@de.bureauveritas.com www.bureauveritas.de/cps



Certificate of compliance

Applicant:

REFU Elektronik GmbH Marktstraße 185 72793 Pfullingen Germany Photovoltaic inverter

Product: Model: Photovoltaic inverter REFUsol 40K (840P040) REFUsol 46K (840P046)

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